IN THE CLAIMS

Kindly cancel claims 1-68.

Please amend claim 69 as follows:

69. (Amended) A method for inducing local tissue formation from a progenitor cell in a mammal comprising the step of implanting in the mammal a morphogenic device [according to any one of claims 30-47] at a locus accessible to at least one progenitor cell of the mammal, wherein the morphogenic device comprises:

a) an implantable biocompatible carrier,

b) a morphogenic protein disposed in the carrier, the morphogenic protein capable of inducing tissue formation when accessible to a progenitor cell, and

c) a morphogenic protein stimulatory factor (MPSF) selected from the group consisting of hormones, cytokines, peptides and growth factors disposed in the carrier, the stimulatory factor capable of stimulating the ability of the morphogenic protein to induce tissue formation from the progenitor cell,

with the proviso that when the progenitor cell is an osteoblast stimulated to form bone and the morphogenic protein is activin, the MPSF may not be estrogen or calcitonin;

when the progenitor cell is an osteoblast stimulated to form bone and the morphogenic protein is a BMP homodimer or TGF-β, the MPSF may not be FGF, IGF-II, PDGF, estrogen, calcitonin or vitamin D;

when the progenitor cell is an osteoblast stimulated to form bone or cartilage and the morphogenic protein is a BMP homodimer, the MPSF may not be TGF-β; and

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when the progenitor cell is an osteoblast stimulated to form bone and the morphogenic protein is a homodimer of BMP-2 or BMP-3, the MPSF may not be parathyroid hormone.

In claim 71, line 3, after "fracture" insert a comma.

Please amend claims 74, 76 and 77 as follows:

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74. (Amended) A method of accelerating allograft repair and incorporation in a mammal, comprising the step of implanting at a locus in need of replacement bone a matrix-comprising device [according any one of claims 30-32] comprising:

a) an implantable biocompatible carrier,

b) a morphogenic protein disposed in the carrier, the morphogenic protein capable of inducing tissue formation when accessible to a progenitor cell, and

c) a morphogenic protein stimulatory factor (MPSF) selected from the group consisting of hormones, cytokines, peptides and growth factors disposed in the carrier, the stimulatory factor capable of stimulating the ability of the morphogenic protein to induce tissue formation from the progenitor cell,

with the proviso that when the progenitor cell is an osteoblast stimulated to form bone and the morphogenic protein is activin, the MPSF may not be estrogen or calcitonin;

when the progenitor cell is an osteoblast stimulated to form bone and the morphogenic protein is a BMP homodimer or TGF-β, the MPSF may not be FGF, IGF-II, PDGF, estrogen, calcitonin or vitamin D;

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when the progenitor cell is an osteoblast stimulated to form bone or cartilage and the morphogenic protein is a BMP homodimer, the MPSF may not be TGF-β; and

when the progenitor cell is an osteoblast stimulated to form bone and the morphogenic protein is a homodimer of BMP-2 or BMP-3, the MPSF may not be parathyroid hormone.

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sub B3

76. (Amended) A method of promoting in vivo integration into a target tissue of a mammal an implantable prosthetic device, the method comprising the steps of:

a) providing on a surface of the prosthetic device [a] an osteogenic composition [according to any one of claims 60-68], and

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b) implanting the device in a mammal at a locus where the target tissue and the surface of the prosthetic device are maintained at least partially in contact for a time sufficient to permit enhanced tissue growth between the target tissue and the device,

wherein the osteogenic composition comprises (1) an morphogenic protein capable of inducing tissue formation when accessible to a progenitor cell, and (2) a morphogenic protein stimulatory factor (MPSF) capable of stimulating the ability of the morphogenic protein to induce tissue formation from the progenitor cell, said morphogenic protein and MPSF disposed on the surface region in an amount sufficient to promote from a progenitor cell enhanced tissue growth between the target tissue and the device;

with the proviso that when the progenitor cell is an osteoblast stimulated to form bone and the morphogenic protein is activin, the MPSF may not be estrogen or calcitonin;

when the progenitor cell is an osteoblast stimulated to form bone and the morphogenic protein is a BMP homodimer or

sub B3 Cont'd

TGF-β, the MPSF may not be FGF, IGF-II, PDGF, estrogen, calcitonin or vitamin D;

when the progenitor cell is an osteoblast stimulated to form bone or cartilage and the morphogenic protein is a BMP homodimer, the MPSF may not be TGF-b; and

when the progenitor cell is an osteoblast stimulated to form bone and the morphogenic protein is a homodimer of BMP-2 or BMP-3, the MPSF may not be parathyroid hormone.

77. (Amended) A method of treating a tissue degenerative condition in a mammal comprising the step of administering a pharmaceutical composition [according to any one of claims 1-29] comprising:

a) a morphogenic protein capable of inducing tissue formation when accessible to a progenitor cell in the mammal;

b) a morphogenic protein stimulatory factor selected from the group consisting of hormones, cytokines, peptides and growth factors, said factor capable of stimulating the ability of the morphogenic protein to induce tissue formation from the progenitor cell; and

c) a pharmaceutically acceptable carrier;

with the proviso that when the progenitor cell is an osteoblast stimulated to form bone and the morphogenic protein is activin, the MPSF may not be estrogen or calcitonin;

when the progenitor cell is an osteoblast stimulated to form bone and the morphogenic protein is a BMP homodimer or TGF-β, the MPSF may not be FGF, IGF-II, PDGF, estrogen, calcitonin or vitamin D;

when the progenitor cell is an osteoblast stimulated to form bone or cartilage and the morphogenic protein is a BMP homodimer, the MPSF may not be TGF-β; and

Sub B3 Cont'd

when the progenitor cell is an osteoblast stimulated to form bone and the morphogenic protein is a homodimer of BMP-2 or BMP-3, the MPSF may not be parathyroid hormone.

Please add new claims 78-101:

-- 78. The method according to claim 77, wherein the morphogenic protein comprises a pair of subunits disulfide bonded to produce a dimeric species and wherein at least one of the subunits comprises a polypeptide belonging to the BMP protein family.

79. The method according to claim 77, wherein the morphogenic protein is an osteogenic protein.

80. The method according to claim 79, wherein the osteogenic protein is capable of inducing the progenitor cell to form endochondral or intramembranous bone.

81. The method according to claim 79, wherein the osteogenic protein is capable of inducing the progenitor cell to form cartilage.

82. The method according to claim 77, wherein the morphogenic protein is capable of inducing the progenitor cell to form tissue tendon/ligament-like or neural-like tissue.

83. The method according to claim 77, wherein the morphogenic protein comprises a polypeptide selected from the group consisting of: BMP-2, BMP-4, BMP-5, BMP-6, BMP-7 (OP-1), BMP-8, BMP-9, BMP-10, BMP-11, BMP-12, and BMP-13, COP-5, COP-7.

84. The method according to claim 77, wherein the morphogenic protein comprises a polypeptide selected from the group consisting of OP-1, BMP-2, BMP-4 and BMP-6.

85. The method according to claim 77, wherein the morphogenic protein comprises OP-1.

86. The method according to claim 79, wherein the dimer is a homo- or a heterodimer comprising at least one BMP-2 or OP-1 (BMP-7) subunit.

87. The method according to claim 77, wherein the morphogenic protein stimulatory factor comprises at least one compound selected from the group consisting of: insulin-like growth factor I (IGF-I), estradiol, fibroblast growth factor (FGF), growth hormone (GH), growth and differentiation factor (GDF), hydrocortisone (HC), insulin, progesterone, parathyroid hormone (PTH), vitamin D, retinoic acid and IL-6.

88. The method according to claim 77, wherein the morphogenic protein stimulatory factor comprises an agent that increases IGF-I bioactivity in the mammal.

89. The method according to claim 77, wherein the morphogenic protein stimulatory factor is present in an amount capable of synergistically stimulating the ability of the morphogenic protein to induce tissue formation in the mammal.

90. The method according to claim 77, wherein the morphogenic protein is present at a concentration of at least about 1 ng/ml, and the morphogenic protein stimulatory factor is present at a concentration of at least about 0.01 ng/ml.

91. The method according to claim 77, wherein the morphogenic protein comprises OP-1 at a concentration of from about 1 ng/ml to about 500 ng/ml and the morphogenic protein stimulatory factor comprises IGF-I at a concentration from about 0.1 ng/ml to about 50 ng/ml.

92. The method according to claim 77, wherein the morphogenic protein comprises OP-1 at a concentration of from about 1 ng/ml to about 500 ng/ml and the morphogenic protein stimulatory factor comprises estradiol at a concentration of from about 0.05 nM to about 1000 nM.

93. The method according to claim 77, wherein the morphogenic protein comprises OP-1 at a concentration of from about 1 ng/ml to about 500 ng/ml and the morphogenic protein stimulatory factor comprises a growth hormone at a concentration of from about 5 ng/ml to about 1000 ng/ml.

94. The method according to claim 93, wherein OP-1 is about 200 ng/ml and the growth hormone is about 500 - 1000 ng/ml.

95. The method according to claim 77, wherein the morphogenic protein comprises OP-1 at a concentration of from about 1 ng/ml to about 500 ng/ml and the morphogenic protein stimulatory factor comprises hydrocortisone at a concentration of from about 0.05 nM to about 5.0 nM.

96. The method according to claim 95, wherein OP-1 is about 200 ng/ml and hydrocortisone is about 0.5 - 5.0 nM .